

produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page III-8.00) The Basin Plan also states that, "...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate..."

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. USEPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available...A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters)." Although the discharge has been consistently in compliance with the acute effluent limitations, the Facility is a POTW that treats domestic wastewater containing ammonia and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." Consistent with Order R5-2008-0037, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay-----	70%
Median for any three consecutive bioassays -----	90%

- b. Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page III-8.00) Based on chronic WET testing performed by the Discharger from February 2008 through February 2012, the discharge has reported a single chronic toxicity effluent result above 1 TUc over five sampling events, for *C. dubia* reproduction. Additional accelerated monitoring was not conducted to verify the toxicity results and survival and growth tests for *P. promelas* and *S. capricornutum*, and the

survival test for *C. dubia* all indicate no observed toxicity during that same sampling event. Due to the limited chronic toxicity data, adequate chronic WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective, as shown in Table F-15 below.

Table F-15. Whole Effluent Chronic Toxicity Testing Results

Date	Fathead Minnow		Water Flea		Green Algae
	<i>Pimephales promelas</i>		<i>Ceriodaphnia dubia</i>		<i>Selenastrum capricornutum</i>
	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
4 February 2008	1	1	1	16	1
5 February 2009	**	**	1	1	1
1 February 2010	**	**	1	1	1
7 February 2011	**	**	1	1	1
6 February 2012	1	1	1	1	1

** - Receiving water did not meet test acceptability criteria as a control; therefore, dose-response endpoints could not be determined. A comparison restricted to 100% effluent vs DMW control concluded that neither survival nor growth were significantly reduced from the laboratory control.

The Monitoring and Reporting Program of this Order requires annual chronic WET monitoring for demonstration of compliance with the narrative toxicity objective. In addition to WET monitoring, the Special Provision in section VI.C.2.a of the Order requires the Discharger to submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for TRE initiation if toxicity is demonstrated.

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region¹ that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next

¹ In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.” The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, this Order requires that the Discharger meet best management practices for compliance with the Basin Plan’s narrative toxicity objective, as allowed under 40 CFR 122.44(k).

To ensure compliance with the Basin Plan’s narrative toxicity objective, the Discharger is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E section V.). Furthermore, the Special Provision contained at VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if effluent toxicity has been demonstrated.

N. Final Effluent Limitation Considerations

8. Mass-based Effluent Limitations

40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations have been established in this Order for ammonia, BOD₅, and TSS because they are oxygen demanding substances. Except for the pollutants listed above, mass-based effluent limitations are not included in this Order for pollutant parameters for which effluent limitations are based on water quality objectives and criteria that are concentration-based.

Mass-based effluent limitations were calculated based upon the design flow (Average Dry Weather Flow) permitted in section IV.A.1.d of this Order.

9. Averaging Periods for Effluent Limitations

40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTWs) unless impracticable. However, for toxic

pollutants and pollutant parameters in water quality permitting, USEPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. *"First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed."* (TSD, pg. 96) This Order uses maximum daily effluent limitations in lieu of average weekly effluent limitations for ammonia, chlorpyrifos, and diazinon, copper, dichlorobromomethane, and zinc, as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Furthermore, for BOD₅, chlorine residual, pH, TSS, and total coliform organisms, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

10. Satisfaction of Anti-Backsliding Requirements

The Clean Water Act specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in Clean Water Act sections 402(o) or 303(d)(4), or, where applicable, 40 CFR 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in Order R5-2008-0037, with the exception of effluent limitations for chlorodibromomethane, heptachlor epoxide, lead, and turbidity. The effluent limitations for these pollutants are less stringent than those in Order R5-2008-0037. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

- a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits "except in compliance with Section 303(d)(4)." CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.
 - i. For waters where standards are not attained, CWA section 304(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDLs or WLAs will assure the attainment of such water quality standards.
 - ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

Churn Creek is considered an attainment water for chlorodibromomethane, heptachlor epoxide, and lead because the receiving water is not listed as impaired

on the 303(d) list for these constituents¹. As discussed in section IV.D.4, below, removal of the effluent limits complies with federal and state antidegradation requirements. Thus, removal of the effluent limitations for chlorodibromomethane, heptachlor epoxide, and lead from the previous Order meets the exception in CWA section 303(d)(4)(B).

- b. CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

As described further in section IV.C.3.b of this Fact Sheet, updated information that was not available at the time Order R5-2008-0037 was issued indicates that chlorodibromomethane, heptachlor epoxide, and lead do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. The updated information that supports the removal of effluent limitations for these constituents includes the following:

- i. Chlorodibromomethane.** Effluent and receiving water monitoring data collected between March 2008 and February 2013 indicates that chlorodibromomethane in the discharge does not demonstrate reasonable potential to cause or contribute to an exceedance of the CTR human health criterion.
- ii. Heptachlor Epoxide.** Effluent and receiving water monitoring data collected between March 2008 and February 2013 indicates that heptachlor epoxide in the discharge does not demonstrate reasonable potential to cause or contribute to an exceedance of the Basin Plan objective of non-detect for pesticides.
- iii. Lead.** Effluent and receiving water monitoring data collected between March 2008 and February 2013 indicates that lead in the discharge does not demonstrate reasonable potential to cause or contribute to an exceedance of the CTR chronic criterion.
- iii-iv. Chlorine Residual.** The Discharger converted from chlorine disinfection to UV disinfection in November 2018. Therefore, there is no reasonable potential to cause or contribute to an exceedance of the NAWQC criterion for chlorine.

Thus, removal and relaxation of the effluent limitations for chlorodibromomethane, heptachlor epoxide, and lead, and chlorine residual from Order R5-2008-0037 is in accordance with CWA section 402(o)(2)(B)(i), which allows for the removal or relaxation of effluent limitations based on information that was not available at the time of permit issuance.

¹ The exceptions in Section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list." State Water Board Order WQ 2008-0006, Berry Petroleum Company, Poso Creek/McVan Facility.

- c. **Turbidity.** Order R5-2008-0037 contained effluent limitations for turbidity. The prior limitations were solely an operational check to ensure the treatment system was functioning properly and could meet the limits for solids and coliform. The prior effluent limitations were not intended to regulate turbidity in the receiving water. Rather, turbidity is an operational parameter to determine proper system functioning and not a WQBEL.

This Order contains operational turbidity specifications to be met in lieu of effluent limitations. The revised Order does not include effluent limitations for turbidity. However, the performance-based specification in this Order is an equivalent limit that is not less stringent, and therefore does not constitute backsliding.

The revised operational specifications for turbidity are the same as the effluent limitations in Order R5-2008-0037. These revisions are consistent with State regulations implementing recycled water requirements. The revision in the turbidity limitation is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16 because this Order imposes equivalent or more stringent requirements than Order R5-2008-0037 and therefore does not allow degradation.

11. Antidegradation Policies

- a. **Surface Water.** This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBELs where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted surface water discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

This Order removes existing effluent limitations for constituents in which updated monitoring data demonstrates that the effluent does not cause or contribute to an exceedance of the applicable water quality criteria or objectives in the receiving water. The Central Valley Water Board finds that the removal of the effluent limitations does not result in an allowed increase in pollutants or any additional degradation of the receiving water. Thus, removal of effluent limitations is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

- b. **Groundwater.** The Discharger utilizes a reclaimed water reservoir and spray irrigation fields. Domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the reclaimed water reservoir may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution No. 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to

the people of the State of California. Some degradation of groundwater by the Discharger is consistent with Resolution No. 68-16 provided that:

- i. the degradation is limited in extent;
- ii. the degradation after effective source control, treatment, and control is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order;
- iii. the Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures; and
- iv. the degradation does not result in water quality less than that prescribed in the Basin Plan.

Discharge specifications have been retained in this Order when discharging to the reclaimed water reservoir at Discharge Point PND-001 and other reclaimed water uses to ensure compliance with requirements of CCR Title 22, California MCLs, and Basin Plan water quality objectives for groundwater. Recycled water monitoring results for discharges to the reclaimed water reservoir were submitted as part of the Report of Waste Discharge. The treated wastewater discharged to the pond and other reclaimed water uses meets Title 22 recycled water requirements and any related groundwater degradation will be limited and there is no indication that discharges from the Facility cause or contribute to groundwater quality less than prescribed in the Basin Plan.

12. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on flow and percent removal requirements for BOD₅ and TSS. Restrictions on BOD₅ and TSS are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the CTR implemented by the SIP, which was approved by USEPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

This Order contains pollutant restrictions that are more stringent than applicable federal requirements and standards. Specifically, this Order includes effluent limitations for total coliform organisms that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in section IV.C.3 of this Fact Sheet.

**Summary of Final Effluent Limitations
Discharge Points 001 and 002**

Table F-16. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis ¹
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	MGD	1.3	--	--	--	--	DC
Conventional Pollutants							
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10	15	30	--	--	TTC
	lbs/day ²	108	163	325	--	--	
	% Removal	85	--	--	--	--	CFR
pH	standard units	--	--	--	6.5	8.5	BP
Total Suspended Solids	mg/L	10	15	30	--	--	TTC
	lbs/day ²	108	163	325	--	--	
	% Removal	85	--	--	--	--	CFR
Priority Pollutants							
Copper, Total Recoverable	µg/L	5.1	--	7.9	--	--	CTR, BP
Dichlorobromomethane	µg/L	0.56	--	1.4	--	--	CTR
Zinc, Total Recoverable	µg/L	12	--	22	--	--	CTR, BP
Non-Conventional Pollutants							
Ammonia Nitrogen, Total (as N)	mg/L	0.74	--	2.1	--	--	NAWQC
	lbs/day ²	8.0	--	23	--	--	
Chlorine, Total Residual	mg/L	0.011 ³	--	0.019 ⁴	--	--	NAWQC
Diazinon and Chlorpyrifos	µg/L	5	--	6	--	--	BP, TMDL
Nitrite Plus Nitrate (as N)	mg/L	10	--	--	--	--	MCL
Total Coliform Organisms	MPN/100 mL	2.2 ⁷	23 ⁸	--	--	240	Title 22
Acute Toxicity	% Survival	--	--	9	--	--	BP
Chronic Toxicity	TUc	--	--	10	--	--	BP

Parameter	Units	Effluent Limitations					Basis ¹
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	

- ¹ DC – Based on the design capacity of the Facility.
TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
CFR – Based on secondary treatment standards contained in 40 CFR Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
TMDL – Based on the TMDL for chlorpyrifos and diazinon in the Sacramento River and Feather River Basins.
Title 22 – Based on CA Department of Public Health Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).
- ² Mass-based effluent limitations are based on a permitted average dry weather flow of 1.3 MGD.
- ³ Applied as a 4-day average effluent limitation.
- ⁴ Applied as a 1-hour average effluent limitation.
- ⁵
$$S_{avg} = \frac{C_{D\ avg}}{0.079} + \frac{C_{C\ avg}}{0.012} \leq 1.0$$

C_{D-avg} = average monthly diazinon effluent concentration in µg/L
C_{C-avg} = average monthly chlorpyrifos effluent concentration in µg/L
- ⁶
$$S_{max} = \frac{C_{D\ max}}{0.16} + \frac{C_{C\ max}}{0.025} \leq 1.0$$

C_{D-avg} = maximum daily diazinon effluent concentration in µg/L
C_{C-avg} = maximum daily chlorpyrifos effluent concentration in µg/L
- ⁷ Applied as a 7-day median effluent limitation.
- ⁸ Not to exceed more than once in any 30-day period.
- ⁹ Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
Minimum for any one bioassay: 70%
Median for any three consecutive bioassays: 90%
- ¹⁰ There shall be no chronic toxicity in the effluent discharge.

O. Interim Effluent Limitations – Not Applicable

P. Land Discharge Specifications

1. The Land Discharge Specifications are necessary to protect the beneficial uses of the groundwater.

Q. Recycling Specifications

Treated wastewater discharged for reclamation is regulated under separate waste discharge requirements and must meet the requirements of CCR, Title 22.

XII. RATIONALE FOR RECEIVING WATER LIMITATIONS

R. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses." The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.
 - a. **pH.** Order R5-2008-0037 established a receiving water limitation for pH specifying that discharges from the Facility shall not cause the ambient pH to change by more than 0.5 units based on the water quality objective for pH in the Basin Plan. The Central Valley Water Board adopted Resolution No. R5-2007-0136 on 25 October 2007, amending the Basin Plan to delete the portion of the pH water quality objective that limits the change in pH to 0.5 units and the allowance of averaging periods for pH. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and USEPA. Consistent with the revised water quality objective in the Basin Plan, this Order does not require a receiving water limitation for pH change.

In Finding No. 14 of Resolution No. R5-2007-0136, the Central Valley Water Board found that the change in the pH receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR 131.12).

Ammonia is the only constituent in the discharge regulated by this Order directly related to pH. The fixed ammonia effluent limitations in this Order are based on reasonable worse-case conditions. Although ammonia criteria are based on pH, and the pH receiving water limitations are more lenient in this Order than in the previous permit, the fixed ammonia limits are new limits, and are developed to protect under worse-case pH conditions. Therefore the relaxation of the pH receiving water limitation will protect aquatic life and other beneficial uses and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies. The relaxation of the receiving water limitation is not expected to cause other impacts on water quality. The Central Valley Water Board finds that the relaxation of the pH receiving water limitation (i) is to the maximum benefit to the people of the State, (ii) will not

unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR 131.12).

The revised receiving water limitation for pH, which is based on the amendment to the Basin Plan's pH water quality objective, reflects current scientifically supported pH requirements for the protection of aquatic life and other beneficial uses. The revised receiving water limitation for pH is more consistent with the current USEPA recommended criteria and is fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in pH when pH is maintained within the range of 6.5 to 8.5 are neither beneficial nor adverse and, therefore, are not considered to be degradation in water quality. Attempting to restrict pH changes to 0.5 pH units would incur substantial costs without demonstrable benefits to beneficial uses. Thus, any changes in pH that would occur under the revised pH limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit to people of the State. Therefore the proposed amendment will not violate antidegradation policies.

- b. Turbidity.** Order R5-2008-0037 established a receiving water limitation for turbidity specifying that discharges from the Facility shall not cause the turbidity to increase more than 1 NTU where natural turbidity is between 0 and 5 NTU based on the water quality objective for turbidity in the Basin Plan. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to limit turbidity to 2 NTU when the natural turbidity is less than 1 NTU. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and USEPA. Consistent with the revised water quality objective in the Basin Plan, this Order limits turbidity to 2 NTU when the natural turbidity is less than 1 NTU.

In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the turbidity receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR 131.12).

This Order includes operational specifications that require the Discharger to operate the treatment system to insure that turbidity shall not exceed 2 NTU as a daily average, and 5 NTU more than 5 percent of the time within a 24 hour period, and 10 NTU, at any time. Because this Order limits the average daily discharge of turbidity to 2 NTU, the Order will be protective of the receiving water under all natural background conditions as defined in the Basin Plan's revised water quality objective for turbidity. The relaxation of the turbidity receiving water limitation will protect aquatic life and other beneficial uses and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies. The relaxation of the receiving water limitation is not expected to cause other impacts on water quality. The

Central Valley Water Board finds that the relaxation of the turbidity receiving water limitation is to the maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR 131.12).

The revised receiving water limitation for turbidity, which is based on the amendment to the Basin Plan's turbidity water quality objective, reflects current scientifically supported turbidity requirements for the protection of aquatic life and other beneficial uses and, therefore, will be fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in turbidity allowed by the revised receiving water limitation, when ambient turbidity is below 1 NTU, would not adversely affect beneficial uses and would maintain water quality at a level higher than necessary to protect beneficial uses. Restricting low-level turbidity changes further may require costly upgrades, which would not provide any additional protection of beneficial uses. Thus, any changes in turbidity that would occur under the amended turbidity receiving water limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit to people of the State. Therefore, the relaxed receiving water limitations for turbidity will not violate antidegradation policies.

S. Groundwater

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
3. The Chemical Constituents objective prohibits concentrations of chemical constituents in excess of California MCLs in groundwater that is designated as municipal or domestic supply. The California primary MCL for nitrate is equivalent to 10 mg/L as nitrogen, and groundwater beneath the facility is designated as

municipal or domestic supply. It is therefore appropriate to adopt a numerical groundwater limitation of 10 mg/L for nitrate as nitrogen to implement the Chemical Constituents objective to protect the municipal and domestic use of groundwater.

4. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

XIII. RATIONALE FOR PROVISIONS

T. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

U. Special Provisions

1. Reopener Provisions

- a. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.
- b. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper and zinc. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

- c. **Drinking Water Policy.** The Central Valley Water Board is developing a Drinking Water Policy. This Order may be reopened to incorporate monitoring of drinking water constituents to implement the Drinking Water Policy.
- d. **Diazinon and Chlorpyrifos Basin Plan Amendment.** Central Valley Water Board staff is developing a Basin Plan Amendment to provide a chlorpyrifos and diazinon effluent limitation exemption if a discharger can demonstrate that diazinon and chlorpyrifos have not been detected in the effluent. The proposed Basin Plan Amendment may result in needed changes to the diazinon and chlorpyrifos requirements in this Order. As discussed in the RPA for diazinon and chlorpyrifos, monitoring data is not available for these constituents. Therefore, this Order may be reopened to modify diazinon and chlorpyrifos effluent limitations, as appropriate, in accordance with an amendment to the Basin Plan.
- e. **Discharge Prohibition III.E. and III.F.** The Discharger has proposed Facility upgrades that would improve effluent quality and comply with final effluent limitations. As a result of the proposed upgrades the Discharger anticipates operating the Facility as a year-round, continuous discharge to surface water, rather than the current seasonal discharge operation. The Discharger also anticipates the ability to discharge without any minimum receiving water to effluent flow ratio present, i.e. an effluent-dominated discharge. [Limited or no flow in the receiving water may occur at any time during the year due to climate conditions].

An antidegradation analysis establishing sufficient findings must be submitted for Central Valley Water Board review in order to consider any new or increased discharge of pollutants to the receiving water body during the dry season and during such periods of low-receiving water flow. At a minimum, sufficient findings must demonstrate whether the new or increased discharge of pollutants will result in any impairment and/or degradation of the receiving water body, whether existing and potential beneficial uses of the receiving water body will be maintained and protected, and whether the receiving water body will maintain compliance with water quality objectives.

Upon submittal of documentation (i.e., an antidegradation analysis) supporting a surface water discharge during the dry season and/or a discharge during low and/or no receiving water flows, and completion of tasks included in the compliance schedule outlined in TSO R5-2014-0053, this Order may be reopened for modification or removal of Discharge Prohibition III.E. and/or III.F.

- f. **Ultraviolet Light (UV) Disinfection Operating Specifications . UV system operating specifications are required to ensure that the UV system is operated to achieve the required pathogen removal. UV disinfection system specifications and monitoring and reporting requirements are required to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, wastewater turbidity, and wastewater flow through the UV disinfection system. The UV specifications in this Order are**

based on the National Water Research Institute (NWRI) and American Water Works Association Research Foundation (AWWRF) "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse" first published in December 2000 and revised as a Third Edition dated August 2012 (NWRI guidelines). If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation required by Title 22 for disinfected tertiary recycled water, this Order may be reopened to modify the UV specifications, in accordance with Reopener Provision VI.C.1.I.

2. Special Studies and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, *"All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."* (Basin Plan at page III-8.00) Based on whole effluent chronic toxicity testing performed by the Discharger from February 2008 through February 2013, adequate chronic WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

The Monitoring and Reporting Program of this Order requires chronic WET monitoring for demonstration of compliance with the narrative toxicity objective. In addition to WET monitoring, this provision requires the Discharger to submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for TRE initiation if toxicity is demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of $> 2 \text{ TUc}$ (where $\text{TUc} = 100/\text{NOEC}$) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six-week period (i.e., one test every two weeks) using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics*

Control, EPA/505/2-90-001, March 1991 (TSD). The TSD at page 118 states, "EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required." Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

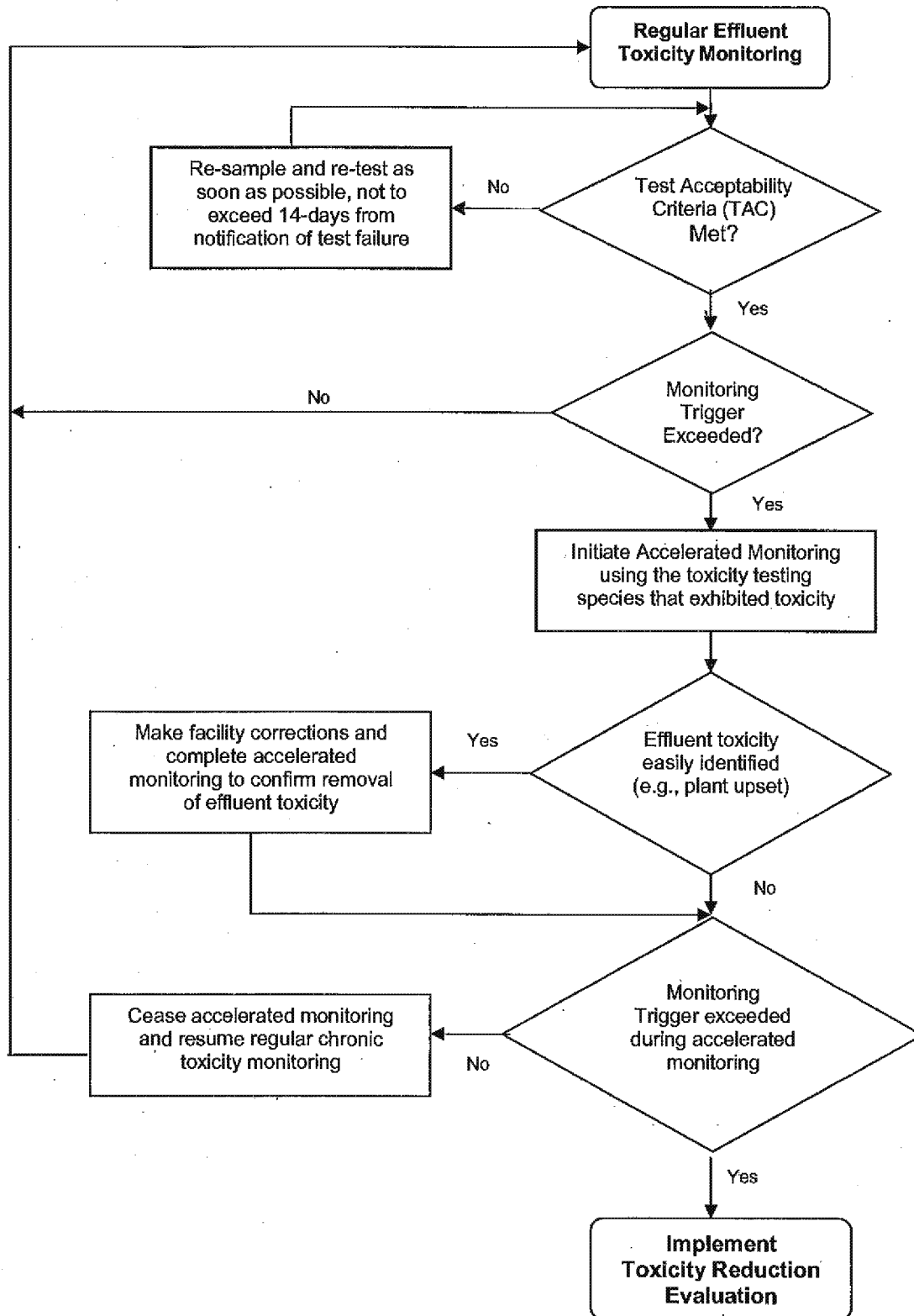
See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833-B-99/002, August 1999.
- Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, April 1989.
- Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, EPA 600/6-91/003, February 1991.
- Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F, May 1992.
- Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA/600/R-92/080, September 1993.
- Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA 600/R-92/081, September 1993.
- Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.
- Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002.

- Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991.

Figure F-1
WET Accelerated Monitoring Flow Chart



3. Best Management Practices and Pollution Prevention

- a. **Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required in this Order to ensure adequate measures are implemented by the Discharger to reduce the discharge of salinity to Churn Creek. The Discharger shall update and implement its salinity evaluation and minimization plan to continue to reduce the discharge of salinity to Churn Creek.

4. Construction, Operation, and Maintenance Specifications

- a. **Turbidity Operational Requirements****Filtration System Operating Specifications.** ~~Turbidity is included as an operational specification as an indicator of the effectiveness of the treatment process and to assure compliance with effluent limitations for total coliform organisms. The tertiary treatment process utilized at this Facility is capable of reliably meeting a turbidity limitation of 2 NTU as a daily average. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity shall not exceed 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU. Turbidity specifications are included as operating criteria in section VI.C.4.a of this Order to ensure that adequate disinfection of wastewater is achieved. Turbidity is included as an operational specification as an indicator of the effectiveness of the filtration system for providing adequate disinfection. The tertiary treatment process utilized at this Facility is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity and could impact UV dosage. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity prior to disinfection shall not exceed 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU.~~
- b. **Pond Operating Requirements.** Consistent with the recommendations within the Technical Report supporting State Water Board Order WQO-2004-0013, the treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
- b.c. **Ultraviolet (UV) Disinfection System Operating Specifications.** This Order requires that wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent. To ensure that the UV disinfection system is operated to achieve the required pathogen removal, this Order includes effluent limits for total coliform organisms, filtration system operating

specifications, and UV disinfection system operating specifications. Compliance with total coliform effluent limits alone does not ensure that pathogens in the municipal wastewater have been deactivated by the UV disinfection system. Compliance with the effluent limits and the filtration system and UV disinfection operating specifications demonstrates compliance with the equivalency to Title 22 disinfection requirement.

The NWRI guidelines include UV operating specifications for compliance with Title 22. For water recycling in accordance with Title 22, the UV system shall be an approved system included in the *Treatment Technology Report for Recycled Water*, December 2009 (or a later version, as applicable) published by the DDW. The UV system shall also conform to all requirements and operating specifications of the NWRI guidelines. A memorandum dated 1 November 2004 issued by DDW to Regional Water Board executive offices recommended that provisions be included in permits for water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning frequency of lamp sleeves, as well as, include provisions that specify minimum delivered UV dose that must be maintained (per the NWRI Guidelines).

For granular media filtration, the NWRI Guidelines recommend a minimum hourly average UV dose of 100 mJ/cm². Therefore, this Order includes UV operating specifications requiring a minimum hourly average UV dose of 100 mJ/cm² and a minimum hourly average UV transmittance of 55%, per the NWRI Guidelines. If the Discharger conducts a site-specific UV engineering study that demonstrates a lower UV dose meets a Title 22 equivalent virus removal, this Order may be reopened to revise the UV operating specifications accordingly.

5. Special Provisions for Municipal Facilities (POTWs Only)

- a. **Pretreatment Requirements.** 40 CFR 403.8(a) requires POTWs with a total design flow greater than 5 MGD and receiving pollutants which pass through or interfere with the operation of the POTW to establish a POTW Pretreatment Program. The design flow of the Facility is less than 5 MGD and the Discharger does not accept wastes from any industrial users. Therefore, this Order does not require the Discharger to develop a pretreatment program at this time pursuant to USEPA regulations at 40 CFR Part 403. However, consistent with Order R5-2008-0037, this Order does require the Discharger to implement the necessary legal authorities, programs, and controls to ensure that incompatible wastes are not introduced into the treatment system and to ensure that indirect discharges do not introduce pollutants into the sewerage system.
- b. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on 2 May 2006. The Monitoring and Reporting Requirements for the General Order were amended by Water Quality Order WQ 2008-0002-EXEC on 20 February 2008. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires

agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. The Discharger is enrolled under State Water Board General Order No. 2006-0003-DWQ.

- c. Anaerobically Digestible Material.** Managers of publicly owned treatment works (POTW's) increasingly are considering the addition of organic material such as food waste, fats, oils and grease (FOG) into their anaerobic digesters to increase the volume of methane and other biogases for energy production. The State Water Board has been working with the California Department of Resources Recycling and Recovery (CalRecycle), the California Department of Food and Agriculture (CDFA), and the California Association of Sanitation Agencies (CASA) to delineate jurisdictional authority for the receipt of hauled-in anaerobically digestible material (ADM¹) at POTW's for co-digestion.

CalRecycle is proposing an exclusion from Process Facility/Transfer Station permits for direct injection of ADM to POTW anaerobic digesters that are regulated under waste discharge requirements or NPDES permits. The proposed CalRecycle exclusion assumes that a POTW has developed Standard Operating Procedures (SOP's) for the proper handling, processing, tracking, and management of the ADM received.

The Discharger currently uses aerobic digestion for sludge processing and does not accept hauled-in ADM for direct injection. However, if the Discharger proposes to implement anaerobic digestion and receive hauled-in ADM for direct injection, this provision requires the Discharger to notify the Central Valley Water Board and develop and implement SOP's for this activity prior to initiation of the hauling.

- d. Continuous Monitoring Systems.** This Order, and the Monitoring and Reporting Program which is a part of this Order, requires that certain parameters be monitored on a continuous basis. The Facility is typically staffed for 8 hours a day and unattended for 16 hours per day during the work week, and staffed for 4 hours per day and unattended for 20 hours per day during the weekends. Permit violations or system upsets can go undetected during this period. The Discharger has a system in place to automatically contact Facility operators in the event of alarms generated at the wastewater treatment plant. The Discharger is required to establish an electronic system for operator notification based on continuous recording device alarms. For any future facility upgrades, the

¹ CalRecycle defines "anaerobically digestible material" as: inedible kitchen grease as defined in section 19216 of the Food and Agriculture Code, food material as defined in Title 14, CCR, Chapter 3.1, Article 1, Section 17582(a)(2) and vegetative food material as defined in Title 14, CCR, Chapter 3.1, Article 1, Section 17582(A).

Discharger shall upgrade the continuous monitoring and notification system simultaneously.

6. Other Special Provisions

- a. In accordance with California Department of Public Health recommendations regarding the discharge of treated municipal wastewater to streams where the water may be used or diverted for a beneficial use; during periods of effluent discharge to Chum Creek when the receiving water provides less than 20:1 dilution, effluent wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the Department of Public Health (DPH; formerly the Department of Health Services) reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent. Effluent need not comply with the Ct¹ requirement specified in Title 22 section 60301.230(a)(1) unless the receiving water provides no dilution. If the receiving water is 100% treated effluent (i.e., effluent-dominated) the effluent shall meet all of the Water Recycling Criteria in Title 22, including Section 60301.230(a)(1).

7. Compliance Schedules – Not Applicable

XIV. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for the Facility.

V. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD₅ and TSS reduction requirements). The monitoring frequencies for flow (continuous), BOD₅ (1/week), and TSS (1/week) have been retained from Order R5-2008-0037.

W. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.

¹The product of the total chlorine residual multiplied by the modal contact time measured at the same point.

2. Effluent monitoring frequencies and sample types for flow (continuous), ~~chlorine residual (continuous)~~, pH (continuous), temperature (1/week), BOD₅ (1/week), TSS (1/week), turbidity (1/day), total recoverable and dissolved copper (1/month), total coliform organisms (2/week), electrical conductivity (1/month), dichlorobromomethane (1/month), total recoverable and dissolved zinc (1/month), total ammonia nitrogen (1/week), TDS (1/month), hardness (1/month), nitrate (1/month), total kjeldahl nitrogen (1/month), total phosphorous (1/month), ortho phosphate (1/month), and standard minerals (1/year) have been retained from Order R5-2008-0037 to determine compliance with effluent limitations, where applicable, and characterize the effluent for these parameters.
3. Monitoring data collected over the previous permit term for total recoverable and dissolved cadmium, chlorodibromomethane, chromium, heptachlor epoxide, lead, nickel, and settleable solids did not demonstrate reasonable potential to exceed water quality objectives/criteria. Thus, specific monitoring requirements for these parameters have not been retained from Order R5-2008-0037.
4. Specific monitoring for total coliform organisms when discharging to the reclaimed water reservoir has been retained from Order R5-2008-0037 with a frequency increase to daily monitoring as specified in the MRP (Attachment E). Duplicate monitoring of the reclaimed water reservoir under drain for total coliform organisms is not necessary to demonstrate compliance with recycle water requirements. Thus, specific under drain monitoring requirements for this parameter at monitoring location REC-DRAIN have not been retained from Order R5-2008-0037.
5. This Order establishes new effluent limitations for diazinon and chlorpyrifos based on the applicable TMDL. Therefore, this Order establishes annual monitoring for diazinon and chlorpyrifos to determine compliance with the applicable effluent limitations.
6. This Order establishes new effluent limitations for nitrate plus nitrite to ensure that the Facility adequately nitrifies and denitrifies the effluent. Therefore, this Order establishes monthly monitoring for nitrate plus nitrite to determine compliance with the applicable effluent limitations.
7. As discussed in section IV.C.3.c.i of this Fact Sheet, bis (2-ethylhexyl) phthalate is a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of detected bis (2-ethylhexyl) phthalate may be from plastics used for sampling or analytical equipment. Therefore, this Order establishes annual monitoring for bis (2-ethylhexyl) phthalate using clean techniques to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge.
8. As discussed in section IV.C.3.c.ii of this Fact Sheet, this Order requires that the Discharger conduct quarterly effluent monitoring for carbon tetrachloride during the first 2 years following permit adoption.
9. As discussed in section IV.C.3.c.iii and iv of this Fact Sheet, the source of iron and manganese observed in the effluent at Discharge Point 002 is uncertain and does

not appear to originate in the treated effluent, and limited data is available to evaluate reasonable potential to exceed the applicable Secondary MCLs on an annual average basis. Therefore, this Order requires quarterly monitoring for 2 years to determine the source and presence of iron and manganese in the discharge.

10. Effluent monitoring frequency for priority pollutants has been revised from annually to semiannually during the third and fourth year of the permit term. In accordance with Section 1.3 of the SIP, periodic monitoring is required for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. See *Effluent and Receiving Water Characterization* (Attachment E, section IX.C.) for more detailed requirements related to performing priority pollutant monitoring.

11. California Water Code section 13176, subdivision (a), states: "*The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code.*" The DPH certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the Clean Water Act. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with Clean Water Act requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for chlorine residual, dissolved oxygen, and pH, and immediate analysis is required for temperature. (40 CFR § 136.3(e), Table II)

X. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Consistent with Order R5-2008-0037, monthly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Consistent with Order R5-2008-0037, annual chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

Y. Receiving Water Monitoring

1. Surface Water

- a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

b. Monitoring Location RSW-001

- i. The receiving water monitoring frequency and sample type for hardness (4/year) have been retained from Order R5-2008-0037.
- ii. In accordance with Section 1.3 of the SIP, periodic monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires monitoring for priority pollutants and other pollutants of concern quarterly during the third and fourth year of the permit term, concurrent with effluent monitoring, in order to collect data to conduct an RPA for the next permit renewal. See *Effluent and Receiving Water Characterization* (Attachment E, section IX.C.) for more detailed requirements related to performing priority pollutant monitoring.

c. Monitoring Locations RSW-002, RSW-003, and RSW-004

- i. Receiving water monitoring frequencies and sample types for dissolved oxygen (1/week), electrical conductivity (1/month), pH (1/week), temperature (1/week), and turbidity (1/week) have been retained from Order R5-2008-0037.
- ii. Monitoring requirements for heptachlor epoxide have not been retained from Order R5-2008-0037 as they are not necessary to determine compliance with permit requirements.

2. Groundwater – Not Applicable

Z. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements contained in the Special Provision contained in section VI.C.5.b. of this Order. Biosolids disposal requirements are imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

2. Water Supply Monitoring

Water supply monitoring is required to evaluate the source of constituents in the wastewater. Consistent with Order R5-2008-0037, this Order requires annual monitoring for TDS, electrical conductivity, and standard minerals. This Order establishes annual monitoring for copper and zinc to determine the contribution of these constituents in the water supply.

3. Ultraviolet (UV) Disinfection System Monitoring

UV system monitoring and reporting are required to ensure that the UV system is operated to adequately inactivate pathogens in the wastewater. UV disinfection system monitoring is imposed to achieve equivalency to requirements established by the DDW and the NWRI guidelines.

3.4. Land Discharge Monitoring – Not Applicable

4.5. Recycled Water Monitoring

- a. **Monitoring Location PND-001.** Recycled water monitoring is required to ensure proper operation of the reclaimed water reservoir. Continuous monitoring for flow and total residual chlorine, weekly monitoring for BOD₅, TSS, and daily monitoring for turbidity have been retained from Order R5-2008-0037. Monitoring for total coliform organisms has been increased from twice weekly to daily to be consistent with the requirements of chapter 3, division 4, Title 22, CCR, Section 60321. This Order also establishes quarterly monitoring for the first 2 years of the permit term for iron and manganese to characterize the effluent from the treatment system prior to entering the reclaimed water reservoir. During periods of discharge through Discharge Point 001, monitoring conducted at Monitoring Location EFF-001 for iron and manganese during the sampling period shall negate the necessity to monitor for iron and manganese at Monitoring Location PND-001 within the same sampling period.
- b. **Monitoring Location REC-DRAIN.** Specific monitoring for total coliform organisms when discharging to the reclaimed water reservoir has been retained from Order R5-2008-0037 with a frequency increase to daily monitoring as specified above under Monitoring Location PND-001. Duplicate monitoring of the reclaimed water reservoir under drain for total coliform organisms is not necessary to demonstrate compliance with recycle water requirements. Thus, specific under drain monitoring requirements for this parameter at monitoring location REC-DRAIN have not been retained from Order R5-2008-0037.
- c. **Monitoring Locations REC-001 and LND-001.** Reclaimed water and spray field monitoring is required to ensure that the reclaimed discharge complies with the Land Discharge Specifications at Discharge Point LND-001 and recycling specifications and Discharge Point REC-001. Monitoring frequency and sample type for flow (continuous) have been retained from Order R5-2008-0037.

XV. PUBLIC PARTICIPATION

The Central Valley Water Board considered the issuance of WDR's that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

AA. Notification of Interested Parties

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided them with an opportunity to submit written comments and recommendations. Notification was provided through physical posting at the Facility and City Hall, publication in the local newspaper, and by internet posting on the Central Valley Water Board's website.

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website at:

www.waterboards.ca.gov/centralvalley

BB. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on ~~10-February-2014~~ xx November 2018.

CC. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date: ~~27/28 March 2014~~ 6/7 December 2018
Time: 8:30 a.m.
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

DD. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Central Valley Water Board regarding the final WDR's. The petition must be received by the State Water Board at the following address within 30 calendar days of the Central Valley Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

EE. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received, are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (530) 224-4845.

FF. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

GG. Additional Information

Requests for additional information or questions regarding this order should be directed to ~~Scott Gilbreath~~ Michael Collins at (530) 224-~~4785~~4854.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS FOR CONSTITUENTS OF CONCERN

Table G-1. Summary of Reasonable Potential Analysis for Constituents of Concern – Discharge Point 001

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
alpha-BHC	µg/L	0.006	<0.005	ND	--	--	0.0039	0.013	ND	--	No
Ammonia Nitrogen, Total (as N)	mg/L	5.72	NA	2.14	2.14 ¹	5.22 ²	--	--	--	--	Yes
Bis (2-Ethylhexyl) Phthalate	µg/L	2.0 DNO	1.0	1.8	--	--	1.8	5.9	--	4	Inconclusive
Cadmium, Dissolved	µg/L	<0.05	<1	0.33 ³ /0.26 ⁴	5	1.5 ³ /1.2 ⁴	--	--	0.33 ³ /0.26 ⁴	5	No
Cadmium, Total Recoverable	µg/L	<0.05	0.05 DNO	0.34 ³ /0.26 ⁴	5	1.6 ³ /1.3 ⁴	--	--	0.34 ³ /0.26 ⁴	5	No
Carbon tetrachloride	µg/L	0.3 DNO	<0.1	0.25	--	--	0.25	4.4	--	0.5	Inconclusive
Chloride	mg/L	62.2	NA	230	860	230	--	--	--	250	No
Chlorodibromomethane	µg/L	0.4 DNO	<0.060	0.41	--	--	0.41	34	--	80 ⁵	No
Chlorpyrifos	µg/L	NA	NA	0.015	--	--	--	--	0.015	--	Inconclusive
Chromium III	µg/L	NA	NA	129 ³ /108 ⁴	1,080 ³ /903 ⁴	129 ³ /108 ⁴	--	--	--	--	Inconclusive
Copper, Dissolved	µg/L	7.5	<0.1	5.5 ³ /4.5 ⁴	5	5.5 ³ /4.5 ⁴	1,300	N/A	7.6 ³ /6.3 ⁴	1,000	Yes
Copper, Total Recoverable	µg/L	8.0	4.1	5.7 ³ /4.7 ⁴	5	5.7 ³ /4.7 ⁴	1,300	N/A	7.9 ³ /6.5 ⁴	1,000	Yes
Diazinon	µg/L	NA	NA	0.10	--	--	--	--	0.10	--	Inconclusive
Dichlorobromomethane	µg/L	3.6	1	0.56	--	--	0.56	46	--	80 ⁵	Yes
Electrical Conductivity @ 25°C	µmhos/cm	418 ⁷	178 ⁷	900	--	--	--	--	--	900	No
Heptachlor Epoxide	µg/L	0.005 DNO	<0.002	ND	0.52	0.0038	0.0001	0.00011	ND	0.01	No
Iron, Total Recoverable	µg/L	42 ⁷	NA	300	--	1,000	--	--	--	300	No
Lead, Dissolved	µg/L	0.2 DNO	NA	1.1 ³ /1.0 ⁴	30 ³ /27 ⁴	1.1 ³ /1.0 ⁴	--	--	--	15	No
Lead, Total Recoverable	µg/L	0.3 DNO	4	1.2	30	1.2	--	--	--	15	No ⁵
Manganese, Total Recoverable	µg/L	12.9 ⁷	<0.1	50	--	--	--	100	--	50	No
Nickel, Total Recoverable	µg/L	5.5	0.9 DNO	32 ³ /27 ⁴	287 ³ /239 ⁴	32 ³ /27 ⁴	610	4,600	--	100	No
Nitrate Nitrogen, Total (as N)	mg/L	16	1.2	10	--	--	10	N/A	--	10	Yes
Silver, Total Recoverable	µg/L	0.12	<0.12	0.64 ³ /1.0 ⁴	0.64 ³ /1.0 ⁴	--	--	--	--	100	No
Sulfate	mg/L	31.6 ⁷	NA	250	--	--	--	--	--	250	No
Total Dissolved Solids	mg/L	280 ⁷	NA	500	--	--	--	--	--	500	No